REMARKS

In response to Examiner's Office Action of March 25, 2004, Applicant would now respond with the following comments.

As a preliminary note, the Examiner rejected claims 1-11 for double-patenting over Applicant's prior case, 6,571,283, claim 27. However, there is no such claim 27 in that case, and a fax was sent to the Examiner to indicate this.

Note that the "prior patent" cited (6,571,283), involves an estimator program to perform method steps for estimating the optimum operating server farm designed to serve a particular number of clients "n".

But note, the present invention is an estimator program performing method steps for "estimating parameters" of the optimum operating server metafarm designed to serve a particular large number of clients "L".

Note, clause (d) of Applicant's claim 1 which indicates using an optimization technique to find the optimum value of the optimization parameter (parameters).

The present application involves a large number of clients "L" working with the configuration of a metafarm (not just a single Server Farm).

The prior patent (6,571,283) involves estimating the optimum operating server farm designed to serve a particular number of clients "n".

Thus, there is a substantial difference in operating functionality and scope (metafarm) of operation. Consequently, Applicant would traverse Examiner's conclusion that this application is not patentability distinct from 6,571,283. There is a substantial difference in the scope of applicability.

For example:

The laws and rules of classical physics in the normal domain do not apply to the atomic domain and quantum fields.

Likewise, a server farm of a nominally small number of users does not completely and properly apply to a huge metafarm with huge numbers of users (10,000+).

Note, that the claim 18 (dependent on claim 12) of Applicant's prior patent 6,571,283, indicates the step (d5), which includes the step of (d5a) --- continuing the optimization procedure if the optimum number for the server farm size is not yet determined by repeating step (d2) through (d5) with another value of said optimization parameter from the domain.

A. Examiner rejects claim 1 for obviousness over Primak, U.S. Patent 6,389,448 in view of Adelman, U.S. Patent 6,006,259.

Primak does not explicitly teach the server farm as a metafarm --- but Examiner says Adelman teaches the server farm as plurality of "cluster members".

Primak does not explicitly teach the Server Farm as a metafarm --- but Examiner intimates that Adelman teaches the metafarm as "plurality of cluster members". A cluster of server farms does not teach the design of an optimum metafarm. Examiner says he can combine the teaching of Primak and Adelman to teach Applicant's

system --- but this would not apply when one is designing from scratch to form an optimum configuration for a huge client base.

Examiner contends he can combine the teaching of Primak with that of Adelman to teach Applicant's system. Applicant would traverse this conclusion. Applicant would now ask of Examiner --- just how would Adelman fit in to contribute to Primak so as to enable a designer to establish optimum metafarms as in Applicant's Figures 2 and 3?

It should be noted that the Primak reference involves a system and technique for balancing or distributing load between the servers in a server cluster -- thus, it provides a network load balancing system which is highly scaleable and optimizes packet throughput by dynamically distributing the load between the servers in a server cluster.

This should be contrasted very emphatically with Applicant's configuration which involves --- an estimator program that performs method steps for estimating parameters of the optimum operating server metafarm designed to serve a particular large number of clients "L". This is an advance design configuration and not, as in Primak, a load balancing system of an already existing configuration!

The concept of estimating parameters for a metafarm is quite different from the Primak concept of already having an established set of server clusters, and then balancing the loads between these clusters. Quite a different proposition entirely.

In regard to Applicant's claims 2 and 3, the Examiner has cited the Primak reference at column 4, lines 10-20.

> Now, to summarize Primak column 4, lines 10-20, we see that --- at line 12 --- the agent program 14 can collect the availability information by monitoring one or more the servers internal conditions which affect the server's ability to establish connections with client computer 60. The monitored conditions may include but are not limited to, the server's processing (or CPU) capacity, CPU load, number of concurrent processes or tasks being performed, and the number of existing connections.

Now, how these factors described in Primak can ever cover the substance of Applicant's claims 2 and 3 is not understandable? For example, in Applicant's claim 2 there exists the following: --

> (a1) selecting for inputs a particular number of clients "L" for utilizing said server metafarm;
>
> (a2) selecting for input a maximum single server workload of users "P";
>
> (a3) selecting for input a Mean Time To Repair Value (MTTR) for a single server;
>
> (a4) selecting for input a Mean Time To Failure (MTTF) for a single server.

It should be noticed that these various claimed clauses do not correlate with the Primak statements of column 4, lines 10-20.

Now, further regarding Applicant's claim 3, where the Examiner has cited Primak column 4, lines 10-20, in regard to Applicant's clause (b1) which states: --- selecting a number of server farms that make up a server metafarm which is any natural integer number of servers, wherein each server farm is the same size in number of servers as each other server farm.

Here, it should be noted that there is nothing in Primak column 4, lines 10-20 which involves developing a design configuration which selects the "number" of server farms that make up a server metafarm.

Primak is concerned with an already existing configuration and attempting to analyze each of the servers in order to do the proper amount of load balancing. This is quite a different function from that achieved in Applicant's system.

Thus, Examiner's claim that Primak teaches the particular number of clients "L" as the number of concurrent processes or tasks --- cannot be substantiated.

Then, regarding Examiner's statement on Applicant's claim 3, where Examiner contends that Primak teaches the number of server farms, and the number of concurrent processes or tasks being performed --- cannot be substantiated since Applicant is dealing with the establishment of an "optimum" operating server metafarm, and the steps for estimating the parameters thereof.

> There is no such purpose or functionality in the Primak cited reference.

Further, in regard to the Examiner's assertion that the Adelman reference can be combined with the Primak reference to establish the functionality of Applicant's systems purposes and configuration, here again, Applicant would controvert this conclusion since it has already been well-established that it is improper for an Examiner to cite a second reference as being capable of inclusion into a first reference when the first reference does not suggest or indicate that such technology of the second reference could possibly be combined into the first reference.

For example, in the case of *In re Jones*, 958 Fed.2d, p.347, 21 USPQ2d, pp.1941,1943 (Fed.Cir 1992), it was stated as follows:

> Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

Further, in the case of *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d p.1044, and 5 USPQ2d, p.1434 (Fed.Cir 1988), it was stated: --

> When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art

as a whole must suggest desirability, and thus, the obviousness of making the combination. It is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention.

Where Examiner has stated that the Primak reference teaches the redundancy factor that should be minimized, citing at Primak column 5, lines 10-20, and Primak column 4, lines 10-20, it will be noted that Primak column 5, lines 10-20 is a very generalized discussion regarding the sub range for each server being continuously recalculated so that the size of each server's sub range is in proportion to the server's availability . . . . so that, for example, about 30% of all connections being accepted by a server would follow as a result of a server having 30% of the total availability of a server cluster.

Now, compare this to Applicant's Figs. 2 and 3, by which one can determine availability of a metafarm and the Mean Time To Failure of a metafarm. Note how this applies to Applicant's Fig. 1 involving a server metafarm which involves multiple numbers of server farms, that it is possible to perform steps to estimate the parameters of the "optimum" operating server farm designed to serve a large number of clients "L".

Primak is not involved with an optimum server metafarm and its parameters.

Note also, that at page 6 of Applicant's original specification at line 20 onward, where it states: --- at the same time this (previous) method had some technical limitations. The

original assumption that the reliability of the workload balancing mechanism is much higher than the reliability of a single server running applications becomes questionable, if the server farm size exceeds 100-120 servers.

> This particular problem arises in the situation where a very large number of users "L", say 10,000, 50,000 or 100,000 users are involved --- the presently described new method improves server farm availability by using so-called metafarms divided into several server farms with a workload balancing mechanism that distributes workload as between the server farms and as between the servers that make up the server farms . . . . The metafarm design (unlike server farm design) may involve a new parameter --- the number of server farms of equal size that make up a server metafarm. The number of server farms can be used as one of the server metafarm optimization parameters.

B. Regarding Applicant's claim 2, Examiner says Primak teaches the particular number of clients "L" as the number of concurrent processes or tasks being formed in Primak column 4 lines 10-20 --- a maximum single server workload of uses -- CPU capacity, CPU load, the number of existing connections, at Primak column 4, lines 10-20.

> Here, we should differentiate clients L from so-called tasks of Primak.

C. Regarding Applicant's claim 3, Examiner contends that Primak teaches the number of server farms, the number of servers as the number of concurrent processes or tasks being performed at column 4, lines 10-20. This does not correlate to Applicant's claim 3.

D. In claim 4, Examiner contends that Primak teaches a redundancy factor having an interval between 0 and 100%, and the entire range could result in about 30%, in Primak column 5 lines 10-20. But note that Applicant's method is an entire combination of interrelated steps and not just one element plucked from a cited reference.

E. Examiner says our claim 5 is an apparatus claim corresponding to our claims 3 and 4. Yes, but the elements of claims 3 and 4 are not taught by Primak.

F. Examiner says Primak teaches the server metafarm meantime-to-failure. (Server processing or CPU capacity, CPU load, a number of existing connections at Primak column 4, lines 10-20). But, Primak does not apply to "Metafarms".

G. Regarding claim 7, Examiner says Primak teaches the server metafarm availability and . . . the availability information of its associated server, at Primak column 4 lines 27-40. Again, note Metafarms are not addressed by Primak.

H. Examiner says Primak teaches the redundancy factor that should be minimized --- the entire range could result in 30% of the connection values falling within the server's sub-range, as seen in Primak column 5, lines 10-20. Also, the server metafarm meantime-to-failure seen at Primak column 4, lines 10-20. Note, however, how Applicant's Figs. 2 and 3 allow proper selection of Redundancy Factors in a manner not taught by Primak.

I. Examiner says Primak teaches the value of the optimization parameters (value from 0 to 32,000) at Primak column 4, lines 39-68) --- and a value for the optimization criterion assigned a sub-range about 30%, seen in Primak column 5 lines 25-40, --- and Primak teaching that of making an evaluation decision if the

connection value of the SYN packet is within the server's assigned range, in Primak column 4, lines 50-60. This does not correlate with Applicant's teaching of Figs. 2 and 3, nor does Applicant require a SYN packet.

J. Examiner says Primak teaches the decision to stop the procedure if the number of server farms in the configured multi-servers (metafarm?) is determined --- citing the connection value of the SYN packet being within the server's assigned sub-range ---- and the associated load-balancing module 12 forwarding the SYN packet to the server to accept the connection request from the client, at Primak column 4, lines 50-60.

Applicant is not involved with such a SYN packet, as required by Primak.

Applicant now hopes that Examiner will realize the outstandingly different conditions which are involved when there is a huge multiplicity of server farms (metafarms) and there is a huge number of users, that is to say 10,000 or more users or greater. It is under these types of conditions that Applicant has developed his present method and system.

It is to be noted that Examiner has cited the Adelman reference, U.S. Patent 6,006, 259. However, it is unclear from Examiner's statements exactly what portion of Adelman that Examiner cites as being of value in helping teach the substance of Applicant's configuration, if Adelman were combined with Primak.

In view of the prior discussion, and the inapplicability of the Primak reference and the Adelman reference in regard to Applicant's purposes and functionality for optimizing the parameters for metafarms (multiple server farms) in conjunction with huge client base operators, such as 10,000 or

more, it should be understood that the present application does make a distinctive contribution to the state-of-the-art and should be regarded as a whole in its entirety, and not just a mere conglomeration of other functionalities from other references.

In this regard, it is now respectfully requested that Examiner consider the extant claims and subsequently provide a Notice of Allowance therefor.

Respectfully submitted,

By Alfred W. Kozak

Alfred W. Kozak
Reg. No. 24,265
(858) 451-4615
(949) 380-5822

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Patti S. Preddy

Date: June 21, 2004 Patti S. Preddy